

Use your app!

Does the system have exactly one solution, no solution, or infinitely many solutions?

12.  $-2x - 3y = 9$   
 $4x + 6y = -18$

$\infty$

In app it says

$x_1 = -4.5 - 1.5x_2$   
 $x_2 = x_2$

Direct and Inverse Variation Direct  $y = Kx$

15.  $y = -1/2x$

Inverse  $y = \frac{K}{x}$

A. Direct B. Inverse C. Neither

13.  $9x - 2y = 11$   
 $5x + 4y = 13$

one solution  
 $x_1 = 35/23$   
 $x_2 = 31/23$

14.  $4x + y = 12$   
 $12x + 3y = 8$

No solution

16.  $\frac{y}{4} = x \cdot 4$  solve for  $y \Rightarrow y = 4x$

A. Direct B. Inverse C. Neither

17. Does the table represent direct or inverse variation? Find the k and write the equation

$k = \frac{y}{x} = 2$

x	-2	4	3	-6	5
y	-4	8	6	-12	10

$k = 2$

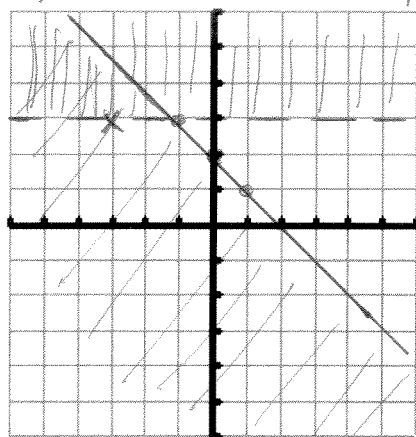
Equation:  $y = 2x$

Systems of Inequalities: Graph the solutions

18.  $x + y \leq 2$   $y \leq -x + 2$   
 $0 \leq 2$  True

False  $y > 3$   
 $(0 > 3)$  False

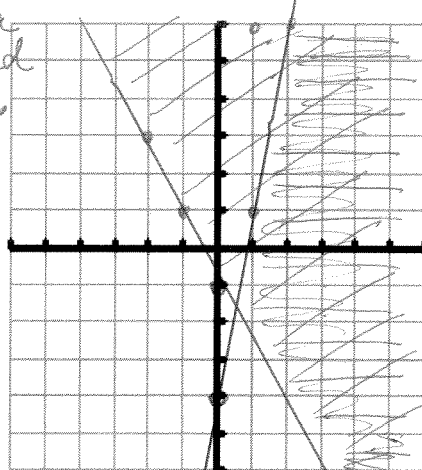
Is  $(-3, 3)$  a solution? No because it's on a dashed line.



Solve for  $y \rightarrow$  graph and shade.

\* Shade the truth

19.  $y \geq -2x - 1$   $0 \geq -1$  True shade includes  $(0,0)$   
 $y \leq 5x - 4$   $0 \leq -4$  False shade opposite  $(0,0)$



Is  $(0,0)$  a solution? yes or NO

Is  $(3, -2)$  a solution? yes

Is  $(-2, 3)$  a solution? NO

Why or why not NO Not in intersection

We will Review this!

$P = 2l + 2w$  Perimeter of a rectangle

20. The perimeter of a rectangular wooden deck is 108 feet. The deck's length,  $l$ , is 6 feet less than 3 times its width,  $w$ . Write a system of linear equations to determine the dimensions, in feet, of the wooden deck?

$l = 39$  ft  
 $w = 15$  ft

$2x + 2y = 108$   
 $x - 3y = -6$

$x = 3y - 6$

21. Is  $(7, -3)$  a solution for  $2x - 3y < 4$ ?

$2(7) - 3(-3) < 4$   
 $14 + 9 < 4$

$23 < 4$

NO

22. Simplify  $\sqrt{300xy^4}$

$\sqrt{300xy^4} = \sqrt{2 \cdot 2 \cdot 5 \cdot 5 \cdot 3 \cdot x \cdot y \cdot y \cdot y \cdot y}$   
 $= 2 \cdot 5 \cdot y \cdot y \sqrt{3x}$   
 $= 10y^2 \sqrt{3x}$

23.  $3V = (\frac{1}{3}Bh)$  Solve for  $h$

$\frac{3V}{B} = \frac{Bh}{B}$

$\frac{3V}{B} = h$

24. Write the equation of a vertical line that passes through  $(6, -3)$   
 $x = 6$